

Open Research Online

The Open University's repository of research publications and other research outputs

Compliance or noncompliance during financial crisis: Does it matter?

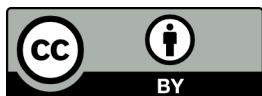
Journal Item

How to cite:

Ahmad, Sardar; Akbar, Saeed; Kodwani, Devendra; Halari, Anwar and Shah, Syed Zubair (2021). Compliance or noncompliance during financial crisis: Does it matter? International Journal of Finance and Economics (Early Access).

For guidance on citations see [FAQs](#).

© 2021 Sardar Ahmad; 2021 Saeed Akbar; 2021 Devendra Kodwani; 2021 Anwar Halari; 2021 Syed Zubair Shah



<https://creativecommons.org/licenses/by/4.0/>

Version: Version of Record

Link(s) to article on publisher's website:
<http://dx.doi.org/doi:10.1002/ijfe.2538>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk

RESEARCH ARTICLE

WILEY

Compliance or non-compliance during financial crisis: Does it matter?

Sardar Ahmad¹  | Saeed Akbar²  | Devendra Kodwani³ | Anwar Halari³  | Syed Zubair Shah²

¹University of Liverpool Management School, University of Liverpool, Liverpool, UK

²The University of Bradford School of Management, University of Bradford, Bradford, UK

³The Open University Business School, The Open University, Milton Keynes, UK

Correspondence

Sardar Ahmad, University of Liverpool Management School, University of Liverpool, Chatham Street, Liverpool L69 7ZH, UK.
Email: sardar.ahmad@liverpool.ac.uk

Abstract

This paper investigates whether shareholder value is affected by non-compliance with the prescriptions of a principle-based 'comply or explain' system of corporate governance in the context of the global financial crisis of 2007–2009. Using System Generalized Method of Moments estimates to control for different types of endogeneity, the main findings of this paper suggest that non-compliance with the UK Corporate Governance Code adversely affects shareholder value. Furthermore, ex-post estimates reveal that compliance with certain corporate governance mechanisms is more beneficial than others. With regard to this, compliance with provisions related to board independence is more important than complying with performance-related pay requirements of the code. These findings have implications for policy makers and financial institutions regarding the usefulness of compliance with a prescribed code of corporate governance, specifically during periods of financial distress.

KEYWORDS

financial crisis, financial firms, governance mechanism, internal controls, non-compliance

1 | INTRODUCTION

Financial crises have existed throughout history, from the Tulip Mania in the 1600s to the recent European debt crisis. Exogenous shocks in the form of a financial crisis can expose the underlying inefficiencies of internal corporate governance mechanisms as drivers of shareholder value. Following the global financial crisis of 2007–2009, scholars were quick to link the inadequacies of corporate governance mechanisms as one of the major causes of the crisis (Conyon, Judge, & Useem, 2011; Gregoriou, 2009; Kirkpatrick, 2009).¹ A broad spillover effect was witnessed by most firms, and indeed the entire world economy, as a result of the collapse of several large

financial institutions. Given the importance of financial firms, this study examines the relationship between firm-level corporate governance mechanisms and shareholder value during the crisis. More specifically, this study contributes to the understanding of the importance of contextual factors on the impact of non-compliance with a prescribed code of corporate governance and shareholder value before and during the financial crisis period.²

Financial institutions are fundamentally different from their non-financial counterparts not only with regard to their business model and stringent regulations but also in terms of the scope of their corporate governance mechanisms (Hopt, 2011). After the financial crisis of 2007–2009, the issue of corporate governance mechanisms in financial

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2021 The Authors. *International Journal of Finance & Economics* published by John Wiley & Sons Ltd.

institutions burst into the limelight and started gaining attention from investors, academics, regulators and financial press. In fact, new regulatory measures and initiatives originated following the crisis period to promote financial stability and good corporate governance mechanisms and to avert the possibilities of another financial crash in future.³ Many countries reviewed and revised their corporate governance regulations following the 2007–2009 financial crisis. For instance, the Walker (2009) review of corporate governance mechanisms in UK and the *Dodd-Frank Wall Street Reform and Consumer Protection Act (2010)* in the US recommended substantial changes to the composition of corporate boards of banks and large financial institutions.

Similarly, in the wake of the crisis in the UK, the Financial Reporting Council (FRC)⁴ revised the corporate governance code in 2010 and also issued the UK Stewardship Code for institutional investors. The purpose of all these initiatives was to enhance fairness, transparency and accountability in the corporate governance systems and to provide protection to stakeholders of financial institutions.⁵ Thus, understanding the real nature of factors that can influence shareholder value and long-term success of financial firms is an important research phenomenon within the context of the financial crisis. This seems appropriate given that financial institutions were at the forefront of the events leading to the financial crisis and prior studies largely exclude financial firms in their investigations (Elamer, Ntim, Abdou, Zalata, & Elmagrhi, 2019).

Furthermore, firms in the financial sector are required to report their compliance with the UK Corporate Governance Code (UK CGC) on the basis of ‘comply or explain’ in the same way as their non-financial counterparts. Compliance with corporate governance codes is imperative for financial firms to mitigate risk and to trigger a positive market reaction. This is because higher market valuation and better operating performance have been documented in the existing literature for firms that comply with corporate governance codes (Gompers, Ishii, & Metrick, 2003; Hooghiemstra & van Ees, 2011; Ullah, Ahmad, Akbar, Kodwani, & Frecknall-Hughes, 2020). Additionally, compliance reduces information asymmetry through greater disclosure and independent monitoring, ultimately leading to a lower cost of capital (Healy & Palepu, 2001; Koirala, Marshall, Neupane, & Thapa, 2020).

On the governance compliance and shareholder value relationship, Gompers et al. (2003) argue that compliance with a prescribed code of corporate governance positively affects shareholder value for non-financial firms. Similarly, strong corporate governance mechanisms are positively associated with voluntary disclosures and the adoption of International Financial Reporting Standards (Verriest, Gaeremynck, & Thornton, 2013), as well as better

corporate social responsibility performance (Chen, Firth, Gao, & Rui, 2006). However, questioning the effectiveness of universal corporate governance standards, Van Essen, Engelen, and Carney (2013) argue that the positive relationship and impact do not hold during the crisis period.

In the context of financial firms, Erkens, Hung, and Matos (2012) examine the relationship between corporate governance and firm performance during the financial crisis, and report that firms with more independent boards and higher institutional ownership exhibited lower share returns. Similarly, Beltratti and Stulz (2012) report a negative relationship between board independence and stock returns for a sample of 164 banks in 32 countries. They measured the governance attributes of their sample banks for the year 2006 only. It is, however, well documented in the existing corporate governance literature, that using cross-sectional data for analysing governance–performance relationship suffers from endogeneity issues and can produce erroneous results (Abdallah, Goergen, & O’Sullivan, 2015; Wintoki, Linck, & Netter, 2012).

In line with the above discussions, this study contributes to the existing literature by providing a unique focus on the governance mechanisms and shareholder value in the pre-crisis and crisis periods for UK financial firms. Motivated by the studies of Erkens et al. (2012) and Beltratti and Stulz (2012), this paper investigates whether shareholder value is influenced by non-compliance with the UK CGC for financial institutions, before and during the financial crisis. Whilst the aforementioned studies focussed on firm-specific governance mechanisms (corporate boards and ownership structures), the current study develops a unique non-compliance index (NCI) as a proxy for firm-level corporate governance. To address the concerns that not all of the provisions in our equally weighted governance index would affect shareholder value equally, we also investigate the effectiveness of compliance with individual provisions of the UK CGC. Additionally, this research explores the effectiveness of two key corporate governance mechanisms on shareholder value, that is, monitoring mechanisms and directors’ incentives. In doing so, the current study adds to the stream of research that investigates various governance-related factors and their impact on shareholder value, for financial firms in a period of financial distress.

There is strong evidence in the existing literature that good governance mechanisms help firms in the monitoring of directors and aligning their interests with shareholders. Agency theory suggests that improving governance practices helps in reducing the wedge between the interests of management and shareholders which leads to enhanced firm value (Jensen & Meckling, 1976; Shleifer & Vishny, 1997). However, the validity of such claims has seldom been tested in extraordinary

economic conditions in general and during a financial crisis period in particular (Van Essen et al., 2013). It is, however, evident that agency conflicts are more likely to be exposed during a period of financial distress and crisis. In light of these empirical and theoretical insights, this study contributes to this debate and analyses how non-compliance with a prescribed code of corporate governance is associated with shareholder value of financial firms during a crisis period.

Using a sample of 86 UK financial firms, this study finds that shareholder value is negatively associated with the level of non-compliance with the UK CGC. The results indicate that those financial firms which are non-compliant with the prescribed code of corporate governance perform worse than their compliant counterparts. Moreover, the negative impact of non-compliance is more pronounced during the crisis period. The findings further show that certain corporate governance mechanisms are more likely to have positive impact on shareholder value than others, such as, compliance with the provisions related to the independence of non-executive directors is more important than complying with performance-based pay requirements.

Moreover, out of the two incentive mechanisms employed in this study, directors' share ownership shows a positive association with shareholder value, whereas directors' remuneration is negatively associated with shareholder value. This indicates that for aligning directors' interest with those of shareholders, directors' share ownership is a more effective governance mechanism than other form of remunerations. These findings signify the need for using different governance mechanisms in different economic conditions and contribute to the growing body of literature that questions the universality of corporate governance prescriptions in different jurisdictions (Judge, 2012; Van Essen et al., 2013).

The rest of this paper is organized as follows. The next section outlines an overview of the existing literature in the area and presents research hypotheses. Section 3 describes research methodology and data sample. Section 4 discusses the results and main findings of the study. Section 5 presents a discussion on the robustness analyses. Finally, Section 6 concludes this paper by summarizing the contributions, provides an overview of the implications and highlights the limitations and scope for future research.

2 | LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In circumstances where ownership is distributed and managers own insignificant portion of companies, the increased monitoring and accountability through

effective corporate governance systems are expected to lead to an effective use of organizational resources and improved profitability (Jensen, 1986). Existence of an effective corporate governance system ensures that directors are not self-serving, and it makes them accountable so that the free cash flows are returned to shareholders (Shleifer & Vishny, 1997). In line with this, Elamer et al. (2019) suggest that ownership structures have a positive effect on the level of risk disclosure whilst Liu, Padgett, and Varotto (2017) report that managerial ownership is an important solution to the agency conflict. It can therefore be argued that effective corporate governance systems enhance the ability of firms to face periods of financial distress such as a financial crisis.

2.1 | Financial institutions, agency conflicts and governance mechanisms

Since the seminal work of Jensen and Meckling (1976) on the agency relationship, a vast academic literature has been developed within this theoretical framework for analysing the relationship between corporate governance and different organizational outcomes. This literature mainly focusses on the agency costs and conflicts as a result of information asymmetry between managers and shareholders.

The distinct characteristics of financial institutions, such as their opaqueness, heavy regulation and the likelihood of government bailouts, mean that a greater understanding of the factors which have been linked to their effective governance mechanisms is pivotal. Due to the higher likelihood of government bailouts, shareholders may be less inclined to engage in monitoring activities which may tempt the directors to engage in risky activities (Staikouras, Staikouras, & Agoraki, 2007). Intense government regulation of financial sector may weaken external governance mechanisms, such as hostile takeovers and competition (Levine, 2004). Consequently, internal governance mechanisms such as board structure and disciplining managerial behaviour may take a central role in mitigating the agency problems in financial institutions (Pathan, 2009). All these arguments demonstrate that financial institutions are obliged to employ robust governance mechanisms.

Furthermore, the scope of excessive risk taking by managers in financial institutions has been a pervasive feature of the financial crisis. Excessive risk taking, combined with the 'too-big-to-fail' situation exacerbated the moral hazard problems within financial institutions. Consequently, directors' incentives such as compensations policies and share ownership may help to reduce the likelihood of moral hazard problems due to the

financial ramifications and align managers' interest with shareholders (Jensen & Meckling, 1976; Shleifer & Vishny, 1997).

2.2 | Non-compliance and shareholder value

The UK CGC maintains that good corporate governance practices help improve monitoring, accountability and transparency in organizations. A high level of compliance with the code would ensure strong internal corporate governance mechanisms within firms. To measure the level of compliance (or non-compliance), indices have been developed by commercial organizations as well as researchers which have been used widely to study the link between internal corporate governance and shareholder value (see e.g., Baum, Chakraborty, & Liu, 2010; Farag, Mallin, & Ow-Yong, 2014; Gompers et al., 2003; Hawas & Tse, 2016). The main advantage of using a composite measure is that it can provide a holistic view concerning the efficacy of a firm's corporate governance systems (Bikiris & Doukakis, 2011). Within the framework of agency theory, one of the key assumptions in using governance indices is that a higher level of compliance with a prescribed code of corporate governance will reflect better monitoring and control mechanisms to safeguard the interest of shareholders. A positive relationship between the level of compliance and shareholder value is therefore expected.

In the UK context, Dahya and McConnell (2007) find a positive relationship between compliance and performance (operating performance and share prices) for a sample of non-financial companies. Similarly, Farag et al. (2014) report a positive relationship between governance characteristics and financial performance of UK firms listed on the Alternative Investment Market (AIM). More recently, Hawas and Tse (2016) document that compliance with the UK CGC is positively associated with major shareholdings, which would indicate that compliant firms are better monitored by such shareholders. Moreover, Baum et al. (2010) report that compliance positively affects the availability of credit during uncertain economic time. Interestingly, Dedman (2016) shows that non-compliance with one particular provision of the governance code is not detrimental and may not negatively affect firm performance. However, if companies are non-compliant with most of the provisions consistently over a number of years, then it can be argued that such a practice might be harmful for a company's performance.

The sample periods of the aforementioned studies cover a relatively stable economic environment which

makes it difficult to generalize these findings during unstable financial periods. In addition, to the best of the authors' knowledge, this is the first study to analyse the association between the level of non-compliance with the UK CGC and shareholder value for UK financial firms during the financial crisis. We therefore argue that as a result of the collapse of large financial firms during the financial crisis, the governance compliance relationship in this sector merits investigation and test the following hypothesis:

H1. *There is a negative relationship between the level of non-compliance with the UK Corporate Governance Code and shareholder value.*

From the perspective of agency theory, monitoring and incentives are fundamental tools for solving moral hazard and adverse selection problems (Jensen & Meckling, 1976; Shleifer & Vishny, 1997). In line with this, Adams, Hermalin, and Weisbach (2010) document that board size, independence and executive compensation are of particular importance in mitigating agency problems in financial institutions. In addition, studies have also documented that board structures affect the degree of compliance with disclosure requirements (Mangena & Taurangana, 2007) and risk of bankruptcy (Darrat, Gray, Park, & Wu, 2016). Therefore, monitoring and compensation will have implications for firm performance during a financial crisis.

Most of the literature in this area supports the view that enhanced monitoring and performance-linked incentives have a positive impact on firms' performance (see e.g., Bayless, 2009; Benito & Conyon, 1999; Benston, 1985; J. Chen, Zhang, Xiao, & Li, 2011; Coughlan & Schmidt, 1985; Florackis, 2005; Murphy, 1985; Ozkan, 2011). However, many studies show a negative relationship between compensation and firm performance and regard it as a sign of weak internal corporate governance and an agency cost (Adams, 2012; Bebchuk & Fried, 2003; Denis, Hanouna, & Sarin, 2006; Florackis & Ozkan, 2008). Moreover, in the context of the 2007–2008 financial crisis, Fahlenbrach and Stulz (2011) document that banks in which a higher proportion of CEO pay is linked with company's performance performed worse during the crisis. Additionally, based on interviews⁶ in 12 UK listed companies, Bender (2004) argued that performance-related pay is used for strategic and human resource purposes (i.e., retention and attraction) and to conform to the current market practices, and it has no positive effect on firm performance.

We contribute to this stream of literature by focussing on two new and important proxies: that is, extra board committees and internal controls, to measure the level of

monitoring. Furthermore, for incentives, we focus on remuneration as well as share ownership of executive directors. Including both remuneration and share ownership enables us to analyse the impact of different types of incentives on shareholder value during difficult economic times. By doing so, we contribute to this stream of literature and investigate whether or not different types of incentives affect shareholder value differently during a financial crisis.

In light of the above discussions, we argue that corporate governance mechanisms that enhance effective monitoring to align directors' interests with the shareholders may have positive impact on shareholder value, especially in times of financial distress (such as a global financial crisis), as during these periods agency conflicts are more likely to be exposed. Against this backdrop, we investigate the efficacy of internal corporate governance mechanisms based on a number of individual mechanisms related to: (i) monitoring (board independence, board committees and internal controls) and (ii) directors' incentives (compensation and share ownership) and form the following hypotheses:

H2a. *There is a positive relationship between monitoring mechanisms and shareholder value.*

H2b. *There is a positive relationship between directors' incentives and shareholder value.*

3 | DATA AND MODEL

3.1 | Data

The panel dataset of this study consists of 86 financial firms⁷ listed on FTSE 350 for the period 2003–2010. In order to be part of the sample, two key criteria had to be met: (i) firms were required to have been listed for at least 3 years prior to 2007 and (ii) the same set of companies (in (i)) were required to be listed post-2007 in order to make meaningful comparison between the two periods. Data were collected from four different sources, namely: Morningstar Company Intelligence,^{8*} companies' annual reports, Datastream and Companies House. The data for non-compliance with the UK corporate governance code were hand-collected from the annual reports of the sample firms. Data for other corporate governance variables such as board independence, remuneration, directors' share ownership and board size were collected from Morningstar Company Intelligence whilst the financial data were extracted from Datastream. In those circumstances when companies were delisted at some point in the period after 2007, and where data were not

available from Morningstar Company Intelligence or their websites, the required data were collected from Companies House.

3.2 | Model specification

Issues of endogeneity have been reported by prior literature within the corporate governance—performance research. Covering these issues, Wintoki et al. (2012) report at least three sources of endogeneity in governance—performance research, which include unobservable heterogeneity, simultaneity and dynamic endogeneity. It is also documented that the presence of at least one form of endogeneity leads to inconsistent and inefficient estimates leading to unreliable inferences (Abdallah et al., 2015). A number of methods have been proposed in the literature that minimizes or controls the problems of endogeneity, such as, inclusion of instrumental variables, use of fixed effects models and application of generalized methods of moments (GMM) estimates, *inter alia*. However, as highlighted by Wooldridge (2002), before selecting an instrumental variable, two conditions are required to be met. First, the instrumental variable must be uncorrelated with the error term of the econometric model. Second, it should be partially correlated with one of the endogenous variables. It is however particularly difficult to find an instrumental variable which could satisfy both these conditions, which makes this approach unsuitable to implement.

The use of fixed effects models can potentially eliminate the bias arising from unobservable heterogeneity. However, Schultz, Tan, and Walsh (2010) argue that fixed effects panel specifications only produce consistent parameter estimates under the assumption of strict exogeneity. It has been widely documented that the governance—performance relationship is subject to simultaneity and dynamic endogeneity and the assumption of strict exogeneity therefore does not hold. Wintoki et al. (2012) recommend the use of GMM and argue that the presence of simultaneity and dynamic endogeneity violates the strict exogeneity assumption of the fixed effects panel estimations, as it results in the regressors being contemporaneously correlated with the error term. In order to test, for the presence of endogeneity, we applied the standard Durbin–Wu–Hausman (DWH) test. The results are reported in Table 1, which shows that apart from Capital and Beta all other variables are endogenous. We therefore argue that the application of OLS or fixed effects models will produce inconsistent estimates. To account for the endogenous effect of the lagged dependent variable, the system GMM estimator makes use of the lagged differences of the dependent variable as

TABLE 1 DWH test for endogeneity

Independent and control variables	F-test	p-value
NCI	4.34	.037
Board independence	77.85	.000
Extra committees	8.44	.003
Internal controls	17.61	.000
Directors' share ownership	4.17	.014
Remuneration	9.36	.002
Leverage	10.70	.001
Firm size	8.08	.005
Board size	4.60	.032
Capital	0.06	.808
Beta	0.34	.559
Liquidity	3.68	.055

instruments for the equation in levels as well as lagged levels of the dependent variable as instruments for the equation in first differences (Arellano & Bover, 1995). Therefore, we use a dynamic GMM estimator, proposed by Arellano and Bover (1995) and Blundell and Bond (1998).

3.3 | Model

In order to control for the effects of potential simultaneity and reverse causality problems, Ammann, Oesch, and Schmid (2011) recommend the use of lagged variables as instruments for the present values of those variables. In line with this, the econometric model of this study is applied in three different steps. First, the regression equation is rewritten as a dynamic model that includes lagged shareholder value as an explanatory variable. Second, we take first differences of all variables which control for unobservable heterogeneity and eliminate a potential omitted variables bias. Third, we estimate the model with application of system GMM and use lagged values of the governance variables and shareholder value, as instruments.⁹

The following model was estimated:

$$Y_{it} = \alpha Y_{i,t-1} + \beta_1 NCI_{it} + \beta_2 Monitoring_{it} + \beta_3 Incentives_{it} + \beta_4 Control_{it} + u_i + \omega_{it}, \quad (1)$$

where Y_{it} is the dependent variable denoting shareholder value where $i = 1...86$ financial firms across t (2003–2010). *Monitoring* represents the corporate governance variables related to monitoring (board

independence, extra board committees and internal control mechanisms), whereas *Incentives* represent corporate governance mechanisms in relation to directors' incentives (directors' share ownership and remuneration). *Control* represents a number of control variables employed in this study. Finally, $\varepsilon_{it} = u_i + \omega_{it}$ is the standard fixed/random effects decomposition of the error term.

The dependent variable (Y_{it}) is measured by two proxies, total shareholder returns (TSR) and return on equity (ROE). Total shareholder returns is calculated as the sum of capital gains and dividend yields (Zakaria, 2012), whereas, return on equity is calculated as net income (net profit after tax) divided by the book value of equity.

The main explanatory variable of this study is the NCI. We carried out content analysis of 688 corporate governance reports (86 firms, 8 years) to develop this non-compliance index for each firm in our sample. This index is used as a proxy for the level of non-compliance with the UK CGC. The index is constructed by assigning one point for each occurrence of non-compliance with the UK CGC.¹⁰ For example, the UK CGC recommends that the role of chairman and CEO should not be performed by one individual. Therefore, if a company complies with this provision, in our NCI, it takes the value of 0 and 1 otherwise. This allowed us to investigate the impact of non-compliance and shareholder value more explicitly. The methodology of index construction is consistent with several existing studies (Farag et al., 2014; Gompers et al., 2003; Hawas & Tse, 2016). A total of 22 provisions are included in the index, so the non-compliance score for each firm vary between 0 (fully compliant) and 22 (fully non-compliant). All these provisions are outlined in Appendix.

Firm size measured as the natural log of total sales is used a control variable (Ahmed & Hla, 2019; Weir, Laing, & McKnight, 2002). In addition to this, availability of liquid resources could also have implications for shareholder value. We therefore control for firms' liquidity (Alexiou, Mohamed, & Nellis, 2019; Dong, Girardone, & Kuo, 2017). Prior studies also report that the amount of capital available to a firm could affect shareholder value, especially in crisis situations (Beekes & Brown, 2006). The capital ratio is therefore introduced as a control variable in our model (Beltratti & Stulz, 2012). Similarly, relative riskiness of a firm is important for shareholder value. Consequently, we control for risk by using market beta as a control variable in the study (Gonzalez & André, 2014). It is also well documented that in terms of board effectiveness and decision-making ability, small corporate boards perform better than large boards (Federo & Saz-Carranza, 2018; Yermack, 1996). In addition, smaller boards are also regarded as more valuable in financially distressed firms (Dowell, Shackell, &

Stuart, 2011). We therefore use board size as a control variable in our analyses. Finally, the level of debt financing could have implications for shareholder value during stable and unstable business periods. To that end, we also introduce leverage as a control variable (Sarhan, Ntim, & Al-Najjar, 2019; Zalata & Roberts, 2016). Definitions of all the variables in our model are presented in Table 2.

Finally, in order to analyse the hypothesized relationship between the level of NCI and shareholder value, we estimate Equation (1) using both proxies of the dependant variable (total shareholder returns and return on equity). We further estimate Equation (1) for two time periods, pre-crisis (2003–2006) and during crisis

(2007–2010). The results are discussed in the next section.

4 | RESULTS AND DISCUSSION

4.1 | Preliminary analyses

Table 3 outlines the descriptive statistics for all variables used in this study. Winsorization has been applied to the top and bottom 1% of observations to control for extreme values. The data in Table 3 indicate that on average, the non-compliance index score over the period of our analyses was 3.57 and had a maximum value of 16. Variance inflation factors (VIF) and tolerance statistics were used to test for the potential effects of multicollinearity among the variables.¹¹ The values of all VIFs remained well below the commonly used threshold of 10. Our results showed that the maximum value for VIF was 1.56, whereas the lowest value for tolerance statistics was 0.62. On this basis, we can confirm that multicollinearity does not appear to be a problem in our data (Field, 2009). Similarly, the tolerance statistics for all variables was above the threshold of 0.10, which is again an indication of the non-existence of multicollinearity amongst our variables.

We also carried out two postspecification tests following the GMM estimation (Arellano & Bond, 1991). Hansen–Sargan J-test was employed to test for over-identifying restrictions and for checking the validity of the moment conditions in our study (Hansen, 1982; Sargan, 1958). The second test we carried out was the residual autocorrelation (AR). This test allowed us to confirm that the second-order autocorrelation is zero. Results of the two specification tests confirm that the null hypothesis of valid restrictions cannot be rejected for all four models. More specifically, the results of Hansen test suggest that the instruments used in our models are valid, and the results of the residual autocorrelation test show no signs of serial autocorrelation of the second order (AR2) in any of our models.

4.2 | NCI and shareholder value

The distribution of coefficients of our GMM regression model across 86 UK financial firms is presented in Table 4. This table is divided into four models. The first model reports the results with TSR as the dependant variable for the pre-crisis period, while the second model documents the results with ROE as the dependant variable for the pre-crisis period. The final two models

TABLE 2 Definitions for dependent, independent and control variables

Variable name	Definition
Dependent variables	
Total shareholder returns (TSR %)	The sum of capital gains and dividend yields.
Return on equity (ROE %)	Net income divided by book value of equity.
Independent variables	
Non-compliance index (NCI)	A score ranging between 0 and 22. Showing the level of non-compliance with the UK corporate governance code.
Board independence	The ratio of NEDs to total board size.
Extra committees	The number of extra committees in addition to audit, remuneration and nomination committee.
Internal controls	The number of internal control systems in place.
Directors' share ownership (%)	The total percentage of equity shares held by all board members.
Remuneration in £ million	The total remuneration paid to directors.
Control variables	
Board size	The total number of directors on board.
Liquidity	The ratio of a firm's current assets to current liabilities.
Capital ratio (%)	The percentage of total equity to total risk-weighted assets.
Beta value	A measure of company riskiness.
Firm size	Natural log of total sales.
Leverage	The percentage of total debt to total assets.

Variables	Observations	Mean	Std. dev.	Min	Max
TSR (%)	679	10.24	25.65	−34.65	56.57
ROE (%)	679	2.99	4.67	−3.19	19.65
NCI	679	3.57	2.96	0.00	16.00
Board independence	679	0.72	0.21	0.14	1.00
Directors' share ownership (%)	679	2.29	4.46	0.02	21.23
Remuneration (£million)	679	2.41	2.10	0.11	7.12
Extra committees	679	1.24	1.16	0.00	5.00
Internal controls	679	9.88	2.57	0.00	14.00
Board size	679	8.18	2.95	3.00	20.00
Beta	679	1.06	0.45	0.30	2.30
Liquidity	679	1.79	1.48	0.31	4.83
Leverage (%)	679	20.65	18.63	0.00	63.06
Firm size	679	2.48	6.02	0.02	21.27
Capital (%)	679	56.10	36.20	2.77	104.83

TABLE 3 Descriptive statistics for all variables

Note: Table 3 reports the descriptive statistics for the sample. Std. dev., min and max donate the standard deviation, the minimum and the maximum, respectively. The total observations should have been 688 (86 firms * 8 years). However, 2 years' data were missing for two companies, 1-year data were missing for two companies and 3 years' data were missing for another company. This has resulted in reducing the total observations to 679 (688–9).

present the results for the two dependent variables during the crisis period.

As reported in Table 4, the main explanatory variable of the study, NCI, is negatively associated with both measures of shareholder value. It is also evident from the results in Table 4 that the negative association between NCI and shareholder value is stronger during the financial crisis period, and the results are significant. We therefore accept H_1 which predicts a negative relationship between the level of non-compliance with the UK CGC and the shareholder value for financial firms. This result supports the view that non-compliance with a prescribed code of good corporate governance could have negative implications for shareholder value. This finding is consistent with the existing literature in this area (Bebchuk, Cohen, & Ferrell, 2009; Farag et al., 2014; Gompers et al., 2003). Non-compliance with the prescribed code of good governance may indicate that such firms have weak monitoring and control mechanisms, which may lead to a decrease in shareholders' wealth as advocated by agency theory. Hooghiemstra and van Ees (2011) report that when firms are given a choice of 'comply or explain' they tend to comply. These results provide further justification as to why this is the case, as non-compliance may be perceived as weak governance by shareholders.

Since the time period of the current study includes an economic time period where financial firms around the world faced extreme financing difficulties and reported poor performance, it is therefore possible that

the decline in shareholder value may have been a result of the external shock rather than non-compliance. Persisting with the argument that good corporate governance makes firms more resilient to shocks in external markets, we divided our sample into compliant and non-compliant firms on the basis of NCI score to compare their results during the crisis period (2007–2010). We constructed two groups, 'compliant firms' with an NCI score of less than 7,¹² and 'non-compliant firms' with an NCI of 7 or more. Results in Panel A of Table 5 highlight that the percentage losses (fall in ROE) suffered by 'non-compliant firms' is significantly more than the losses experienced by 'compliant firms' during the crisis period. This supports our conjecture that compliant firms are more resilient to negative effects of adverse economic conditions, such as, the financial crisis.

Our results extend the findings of previously published UK studies in this area. For example, Dahya and McConnell (2007) and Shrives and Brennan (2015) report that over the years, compliance with the UK CGC has increased. Similarly, Arcot, Bruno, and Faure-Grimaud (2010) who studied a sample of 245 non-financial FTSE 350 firms over the period 1998–2004 show that the level of compliance with the UK Corporate Governance Code¹³ has increased. More recently, Hawas and Tse (2016) document that compliance with the UK CGC is positively associated with major shareholdings, which would indicate that compliant firms are better monitored by such shareholders. Our findings show that non-

TABLE 4 Regression results for corporate governance and the shareholder value

VARIABLES	Pre-crisis (2003–2006)		During-crisis (2007–2010)	
	TSR	ROE	TSR	ROE
L.1	0.474*** (0.044)	0.880*** (0.108)	0.273*** (0.005)	0.165*** (0.011)
L.2	— —	— —	0.408*** (0.007)	0.777*** (0.006)
NCI	−0.347 (0.435)	−0.457*** (0.134)	−1.645** (0.696)	−0.246*** (0.090)
Monitoring variables				
Board Independence	−12.49*** (3.170)	−1.146* (0.647)	−52.83*** (3.292)	−7.615*** (0.517)
Extra committees	−1.984 (1.804)	−0.404 (0.309)	−2.253 (1.598)	−1.565*** (0.178)
Internal controls	3.006*** (0.642)	0.592*** (0.188)	4.567*** (0.701)	2.256*** (0.105)
Incentives variables				
Directors' share ownership	0.416*** (0.140)	0.0604 (0.098)	0.380*** (0.056)	0.0650* (0.033)
Remuneration	−0.285 (0.266)	−0.115** (0.055)	−0.496*** (0.152)	−0.0691*** (0.019)
Control variables				
Leverage	0.134* (0.079)	0.0367*** (0.011)	−0.960*** (0.049)	−0.0312*** (0.006)
Firm size	−0.114 (0.152)	−0.0311* (0.017)	−0.126 (0.088)	−0.0439*** (0.014)
Board size	−1.186** (0.485)	−0.181 (0.119)	1.432*** (0.321)	0.464*** (0.041)
Capital	0.212*** (0.044)	0.0465*** (0.010)	0.737*** (0.028)	0.100*** (0.007)
Beta	−4.933 (6.064)	−0.791 (0.839)	−8.879*** (0.870)	−2.994*** (0.195)
Liquidity	0.0515 (0.245)	−0.142*** (0.047)	0.196 (0.223)	−0.0353 (0.041)
Constant	7.383 (12.260)	7.050** (2.849)	41.31*** (8.179)	14.72*** (1.159)
<i>J</i> -test (<i>p</i> -value)	33.72(.142)	75.45(1.00)	79.75(1.00)	39.750(.22)
AR (1) (<i>p</i> -value)	−3.21(.001)	−3.04(.002)	−4.86(.000)	−2.84(.004)
AR (2) (<i>p</i> -value)	−0.43(.918)	0.18(.85)	−1.53(.125)	−0.62(.53)
Observations	258	258	335	335
Number of firms	86	86	86	86

Note: Table 4 provides the results when the data are analysed for the pre-crisis period (i.e., 2003–2006) and crisis period (i.e., 2007–2010). TSR and ROE are dependent variables. L.1 and L.2 are lags 1 and 2, respectively, of the dependent variables. The independent variables are NCI (level of non-compliance with the UK CGC), board independence (the ratio of non-executive directors on board), extra committees (the number of extra board committees in addition to nomination, audit and remuneration committees), internal controls (the number of internal control systems in place within the company), directors' share ownership (total percentage of shares held by the board of directors), remuneration (total remuneration of board members), leverage (the ratio of total debt to assets), firm size (log of total sales), board size (total number of board members), capital (the ratio of total equity to total assets), beta (a measure of systematic risk), and liquidity (the ratio of current assets to current liabilities).*** significance at $p < .01$, ** significance at $p < .05$, * significance at $p < .1$. Standard errors in parentheses.

Variables Panel A	Compliant firms NCI < 7	Non-compliant firms NCI ≥ 7	<i>t</i>	<i>p</i> -value
TSR	43.1631	11.6600	0.3069	0.759
ROE	83.9753	−148.1080	39.6115	0.076
Panel B	Lower NED ratio NED ratio < 0.50	Higher NED ratio NED ratio ≥ 0.50	<i>t</i>	<i>p</i> -value
TSR	−79.8983	−271.4492	−1.4002	.1624
ROE	81.3297	−67.7933	−1.4976	.0135

TABLE 5 NCI score and NED ratio comparison during the crisis period

compliance with UK CGC is negatively associated with shareholder value and recommend compliance with the prevailing governance regulations.

4.3 | Monitoring mechanisms and shareholder value

In relation to monitoring mechanisms, Table 4 shows that board independence is significantly negatively associated with both measures of shareholder value. This finding does not support the hypothesized positive relationship between increased monitoring (represented by board independence) and shareholder value. Independence is captured by the number of NEDs as reported by firms in their annual reports and does not take into account whether such directors meet the independence criteria set out by the UK CGC. Therefore, a director can be non-executive director, but it does not necessarily mean that he/she is independent as well.

This finding is in line with a number of recent studies that report a negative relationship between board independence and performance of financial firms (Adams, 2012; Beltratti & Stulz, 2012). Similarly, in a recent cross country study, Vallascas, Mollah, and Keasey (2017) argue that board independence reduces risk for only those banks which received government bailouts. This implies that board independence may not be as beneficial for financial firms as previously perceived, and its usefulness may be contingent upon other factors such as meeting the independence criteria set out by the UK CGC. Furthermore, the coefficients of board independence and both measures of shareholder value increased substantially during the crisis period. The coefficients (TSR −52.83 and ROE −7.615) during the crisis period are significantly larger than those in the pre-crisis period (TSR −12.49, ROE −1.146). This indicates that the negative impact of higher numbers of NEDs representation on boards increases during the crisis period.

We further divided our sample into two groups on the basis of NED ratio of 0.50¹⁴ to examine whether the negative impact is associated with the financial crisis. A firm

with a ratio of 0.50 or more is classified as ‘higher NED ratio,’ whereas a firm with a ratio of less than 0.50 is classified as ‘lower NED ratio.’ As reported in Panel B of Table 4, the percentage decrease in the shareholder value of firms with ‘higher NED ratio’ is significantly higher than those firms which maintained a ‘lower NED ratio’ during the crisis period. This suggests that the negative impact of the presence of NEDs on shareholder value is stronger in those financial firms which maintained a higher number of NEDs on their boards during crisis period.

A number of explanations have been advanced in the literature to explain this negative relationship between board independence and shareholder value. One line of explanation highlights the dependence of independent directors on top management of firms, whereas another argument discusses the level of firm-specific knowledge of the independent directors. For example, Choi and Hasan (2005) explain the negative relationship between board independence and shareholder value through managerial hegemony theory, according to which, the negative relationship describes independent directors’ dependency on top management. In the same vein, Adams (2012) documents that due to lack of adequate knowledge about a firm’s business operations, independent directors might not be able to provide strategic advice or monitor executive management when it is needed the most, which may be driving the negative relationship between board independence and shareholder value. It is therefore argued that only increasing the number of NEDs without taking into account all other relevant measures may not be sufficient for increasing shareholder value.

In addition, while explaining the negative relationship between board independence and shareholder value, Beltratti and Stulz (2012) argue that during the crisis period, banks chose shareholder friendly boards (i.e., boards with higher number of NEDs) as they were exposed to more risks due to their strategies. It was the risky strategies of the banks, rather than their governance mechanisms, which have led to poor shareholder value during the crisis period. However, it can also be argued

that if these banks performed poorly due to excessive risk-taking practices, then this could indicate that NEDs have failed in their duty to monitor and challenge excessive risk-taking. In such circumstances, increasing the number of NEDs on boards could negatively affect the shareholder value of firm.

Another explanation for the negative relationship between board independence and shareholder value relates to personal cost to directors. As explained by Lipton and Lorsch (1992), personal costs to directors fall in large boards, which gives rise to the 'free riding' problem. This argument could be extended to NEDs, as in the case of poor shareholder value, it is the executive directors who are held responsible for poor shareholder value. Therefore, due to the minimal personal costs, NEDs may lack motivation to monitor executive directors adequately.

The results in Table 4 also highlight another key monitoring tool, the number of internal control systems within an organization, as being positively associated with shareholder value. This finding supports H_{2a} which predicts a positive relationship between effective monitoring (in this case represented by the number of internal control systems) and the shareholder value. This finding is consistent with (Gupta, Sami, & Zhou, 2018), who argue that strong internal controls are associated with decreased price volatility and increased trading volume. This finding extends existing literature on the effectiveness of internal control systems as a monitoring tool for protecting the interests of shareholders. Additionally, consistent with the notions of the agency theory, internal control systems could mitigate the conflict of interest between agents and principals, thus leading to improved shareholder value. More specifically, our results suggest that all those financial firms that had introduced more internal control systems in our sample performed better than firms which had implemented fewer internal control systems.

Finally, Table 4 further reports that as far as extra committees on board are concerned, our results are statistically insignificant during the pre-crisis period. The negative relationship between extra board committees and ROE during the crisis period indicates that our results are consistent with the findings of McKnight and Weir (2009). This could mean that during the crisis period, increasing the number of board committees might be detrimental to shareholder value and is consistent with the view that board committees lead to more agency costs.

4.4 | Incentive mechanisms and shareholder value

Two incentive mechanisms have been investigated in this study, namely: the directors' share ownership and

directors' remuneration. These two mechanisms serve to align directors' interests with the shareholders. The results in Table 4 show that of the two incentive mechanisms, directors' share ownership is more effective in increasing shareholder value. Our results indicate that directors' share ownership is positively associated with shareholder value during the pre-crisis and crisis periods, for both measures of shareholder value. This supports H_{2b} which predicts a positive relationship between directors' incentives (in this case, represented by directors' share ownership) and the shareholder value. This finding extends the existing literature in this area which report that equity-based incentives are beneficial for reducing various types of agency costs such as, audit fees (Gotti, Han, Higgs, & Kang, 2012) and management pay (Janakiraman, Radhakrishnan, & Tsang, 2010).

However, a negative relationship is reported between directors' remuneration and shareholder value contradicting H_{2b} , which predicts a positive relationship between directors' incentives (in this case, represented by remuneration) and shareholder value. This finding indicates that remuneration is not an effective tool for aligning directors' interests with those of the shareholders. Studies such as Morck, Shleifer, and Vishny (1988) reported a negative relationship between remuneration and shareholder value and argue that higher remuneration could be the result of weak internal corporate governance mechanisms within a firm. Similarly, explaining the negative relationship between executive compensation and firm performance in the context of financial crisis, Cheng, Hong, and Scheinkman (2015) argue that firms with high executive remuneration experienced poor performance during the financial crisis. This implies that higher remuneration paid to directors could result in higher agency costs.

In the UK context, remuneration structures in financial institutions may have encouraged short-termism and excessive risk-taking attitude. Existing literature provides evidence of a positive association between directors remuneration/compensation and banks' risk (Cheng et al., 2015). Based on the results provided in Table 4, it is therefore argued that for our sample of financial firms, higher remunerations paid to directors may have encouraged excessive risk-taking; however' this did not translate into improved shareholder value. It is also evident from our results that the negative relationship between remuneration and shareholder value is stronger and significant in the crisis period as compared to the pre-crisis period. This suggests that those UK financial institutions that paid higher remunerations to their directors for aligning their interests with shareholders performed poorly during the financial crisis. This finding is consistent with the view presented in prior literature that

suggested that financial firms' excessive risk-taking behaviour led to poor shareholder value during the crisis period (Fahlenbrach & Stulz, 2011; Van Essen et al., 2013). We also investigated remuneration paid based on the board size and re-analysed the data; however, the results were largely unchanged.¹⁵

Therefore, our results suggest that share ownership is a more effective incentive mechanism in increasing shareholder value and for aligning directors' interests with those of the shareholders as compared to directors' remuneration. Directors' incentives in the form of increased ownership are expected to encourage directors to take a long-term view which helps in enhancing the shareholder value.

4.5 | Compliance with individual provisions of the UK CGC

We further analyse the relationship between non-compliance and shareholder value by running our regressions on individual provisions of our index to address the concerns discussed in prior literature suggesting that not all of the provisions in an equally weighted governance index would affect shareholder value of firms equally (Bebchuk et al., 2009). The individual provisions considered were P2, P3, P4, P8, P11, P15 and P18 on the basis that most of our sample firms were non-compliant with these provisions more frequently. However, only P15 and P18 were identified as consistently negatively associated with ROE and TSR.¹⁶ According to the results of Principal Component Analysis (PCA),¹⁷ six components were identified as having *eigenvalues* of over 1 and collectively explaining 60.6% of the variance. Out of these six components only two (incentives and monitoring) were significantly associated with shareholder value. Incentives consist of factors related to the remuneration structure, whereas monitoring is related to the existence of independent non-executive directors on corporate boards and various sub-committees. In the case of incentives, non-compliance with the given provisions was positively associated with shareholder value; however, monitoring non-compliance was negatively associated with shareholder value.

Although the UK CGC requires companies to pay performance-based salaries to their directors, our results indicate that those companies which are non-compliant with such provisions had better shareholder value in the period leading up to financial crisis, as well as during the crisis. In other words, those firms which paid performance-related pay to their directors performed worse than their counterparts where directors' pay was not based on performance. These results are consistent with Carter, Lei,

Marcus, and Tehranian (2016), who argue that abnormally high compensation predicts worse future shareholder value and high pay represents an agency problem.

In relation to firms' non-compliance with those provisions of the UK CGC that are related to monitoring, our findings imply that it is beneficial for companies to comply with these requirements of the UK CGC. It is however important to note that in relation to monitoring, the emphasis is placed on the strictly defined independence of non-executive directors as highlighted in Section 4.2. The UK CGC outlines a number of requirements (for instance, NED's time on board, family ties and material business transactions with the firm, amongst other things) that need to be met before a director can be considered as independent. Our results show that those firms which are meeting the compliance requirement of independent non-executive directors perform better than those which are non-compliant. Comparing this result to the findings discussed in Section 4.2, it can be argued that NEDs could only enhance monitoring if such directors meet the strict independence criteria set out by the UK CGC.

5 | ROBUSTNESS TESTS

In order to test the robustness of our results, we analyse the data for the whole sample period (2003–2010). The results are presented in Table 6. We also used return on asset (ROA) as an alternative measure of shareholder value and redid our analyses for the whole sample period, pre-crisis period and the crisis period (see Table 7). The results in Tables 6 and 7 indicate that the main explanatory variable, NCI, is still negatively associated with shareholder value during the pre-crisis period, crisis period, as well as the whole sample period. In light of these results, it may thus be concluded that the findings of this study are robust to different measures of shareholder value. Similarly, in the revised analyses (when data are analysed for the whole sample period with ROA as the measure of shareholder value), board independence is still negatively associated with shareholder value. The positive impact of directors' share ownership and internal control systems is also robust to the use of different measures of shareholder value as well as when the data are analysed for the whole of the sample period.

6 | CONCLUSION

Using a sample of UK financial firms, this study examined the effect of non-compliance with the UK CGC on shareholder value. The paper also investigated the

TABLE 6 Regression results for corporate governance and the shareholder value for the whole sample period (2003–2010)

VARIABLES	Whole period (2003–2010) TSR	Whole period (2003–2010) ROE
L.1	0.264*** (0.008)	0.195*** (0.005)
L.2	0.406*** (0.010)	0.758*** (0.007)
L.3	0.0788*** (0.015)	— —
NCI	−1.830* (1.054)	−0.368*** (0.075)
Monitoring variables		
Board Independence	−55.22*** (3.426)	−6.166*** (0.372)
Extra committees	−0.211 (2.073)	−1.333*** (0.203)
Internal controls	5.933*** (0.951)	1.826*** (0.088)
Incentives variables		
Directors' share ownership	0.106** (0.047)	0.120*** (0.031)
Remuneration	−1.600*** (0.251)	−0.0535*** (0.014)
Control variables		
Leverage	−0.952*** (0.049)	−0.0127*** (0.002)
Firm size	−0.0172 (0.149)	−0.0554*** (0.005)
Board size	2.480*** (0.398)	0.507*** (0.053)
Capital	0.719*** (0.039)	0.0944*** (0.005)
Beta	−2.180* (1.201)	−2.592*** (0.152)
Liquidity	0.484** (0.198)	−0.0419 (0.027)
Constant	45.40*** (9.582)	12.45*** (0.952)
<i>J</i> -test (<i>p</i> -value)	79.86(1.00)	44.96(1.00)
<i>AR</i> (1) (<i>p</i> -value)	−4.89(.000)	−2.99(.002)
<i>AR</i> (2) (<i>p</i> -value)	−1.62(.1038)	−0.38(.69)
Observations	421	507
Number of firms	86	86

Note: Table 6 provides the results when the data are analysed for the whole sample period (i.e., 2003–2010). All variables are exactly the same as those used in Table 4. L.1, L.2 and L.3 are lags 1, 2 and 3, respectively, of the dependent variables. *** significance at $p < .01$, ** significance at $p < .05$, * significance at $p < .1$. Standard errors in parentheses.

efficacy of two key firm-level corporate governance mechanisms (monitoring and incentives) for reducing agency problems and improving shareholder value during a period of financial distress. The results show that non-compliance with the UK CGC is negatively associated with shareholder value, and this negative impact is more pronounced during the crisis period suggesting that non-compliance can make firms more vulnerable during periods of financial distress. This implies that although UK firms have a choice to comply with the UK CGC or provide explanation for their non-compliance, it is in the interest of companies to comply as non-compliance could lead to a decrease in shareholders' wealth. Furthermore, non-compliance may reduce the resilience of firms and could make them vulnerable to the negative effects of adverse economic conditions, such as, a financial crisis. This finding is in line with the predictions of agency theory and supports those views which regard corporate governance code as an appropriate mechanism for reducing the agency problems and protecting the interests of shareholders.

In relation to monitoring mechanisms, having a higher number of internal control mechanisms within financial firms appear to be an effective monitoring mechanism, as opposed to board independence and extra board committees. Our findings report a strong positive association between the number of internal control mechanisms and shareholder value in general and during the crisis period, in particular. On the contrary, however, board independence (as represented by the number of NEDs) is reported as being significantly negatively associated with both measures of shareholder value. The results of this study also show that during the crisis period, shareholder value for financial firms with more independent boards was significantly lower than their counterparts with less independent boards. This suggests that during difficult economic conditions, the impact of financial crisis was more severe in firms with more independent boards. This ex post observed failure of board independence as an effective monitoring tool to curtail losses during the crisis is in line with prior literature.

Although, non-compliance with the requirements of independent non-executive directors is negatively associated with shareholder value, it is important to note that compliance with the UK CGC's provisions in relation to independence means abiding by the code's strict requirements in terms of independence. However, having a higher number of NEDs is negatively associated with shareholder value. As discussed earlier, this is just the number of NEDs on board, and they may not be classified as independent directors as per the requirements of the UK CGC. This implies that independence of NEDs is more important than the number of NEDs and pinpoints the importance of directors' real independence for UK

TABLE 7 Regression results for corporate governance and the shareholder value using ROA as a measure of shareholder value

VARIABLES	Whole period (2003–2010) ROA	Pre-crisis (2003–2007) ROA	During crisis (2007–2010) ROA
L.1	0.651*** (0.016)	0.529*** (0.049)	0.632*** (0.014)
L.2	0.997*** (0.023)	- -	1.059*** (0.024)
L.3	0.0126 (0.020)	- -	- -
NCI	-0.954*** (0.077)	-0.413*** (0.124)	-0.826*** (0.056)
Monitoring variables			
Board Independence	-8.312*** (0.607)	-0.237 (0.429)	-7.947*** (0.489)
Extra committees	-0.395 (0.287)	-0.423 (0.311)	-0.505 (0.313)
Internal controls	1.182*** (0.102)	0.300** (0.125)	1.343*** (0.116)
Incentives variables			
Directors' share ownership	0.0199 (0.015)	0.142** (0.056)	0.0122 (0.011)
Remuneration	-0.168*** (0.022)	-0.164** (0.065)	-0.166*** (0.013)
Control variables			
Leverage	-0.0859*** (0.005)	-0.0132 (0.010)	-0.0797*** (0.006)
Firm size	-0.0519*** (0.009)	-0.0287* (0.015)	-0.0573*** (0.015)
Board size	-0.612*** (0.039)	-0.109 (0.073)	0.532*** (0.027)
Capital	0.0443*** (0.003)	0.0284*** (0.009)	0.0337*** (0.003)
Beta	-3.918*** (0.179)	-2.554*** (0.651)	-3.799*** (0.153)
Liquidity	-0.0185 (0.022)	0.0552* (0.031)	0.0284 (0.019)
Constant	11.30*** (0.963)	0.239 (1.934)	8.798*** (1.144)
<i>J-test (p-value)</i>	76.57(1.00)	37.92(.29)	73.34(1.00)
<i>AR (1) (p-value)</i>	-2.86(.004)	-1.45(.146)	-2.84(.004)
<i>AR (2) (p-value)</i>	-0.92(.354)		-0.89(.369)
Observations	421	258	335
Number of firms	86	86	86

Note: Table 7 provides the results when the data are analysed for the three time periods using ROA as dependent variable to proxy shareholder value. All independent variables are exactly the same as those used in Table 4. L.1, L.2 and L.3 are lags 1, 2 and 3, respectively, of the dependent variables. *** significance at $p < .01$, ** significance at $p < .05$, * significance at $p < .1$. Standard errors in parentheses.

organizations. From an agency theory perspective, this would imply that monitoring is improved only if NEDs are strictly independent as required by the UK CGC.

With regard to incentives mechanisms, directors' share ownership is found to be an effective mechanism to align directors' interests with shareholders. In line with the assumptions of agency theory, directors' share ownership encourages them to take a long-term view and work in the best interest of shareholders. However, remuneration seems to be ineffective in aligning directors' interests with those of shareholders. We therefore offer new insights into the monitoring mechanisms and incentives in financial institutions. Our findings suggest that financial firms should use more effective mechanisms for enhancing shareholder value rather than those measures which only encourage short-termism.

Although results of this study as a whole advocate that compliance with the UK CGC can act as a resilience factor to performance deterioration in time of financial distress, these findings are more nuanced than this. Additional analysis reveals that not all of the provisions in an equally weighted governance index would affect shareholder value of firms in the same way. These findings further suggest that certain corporate governance mechanisms are more effective in enhancing shareholder value than others. This implies that it may not be in the interest of firms to comply with all provisions of a prescribed code of corporate governance. In this regard, our results indicate that firms which were non-compliant with provisions of the UK CGC that required performance-related pay performed better than those firms that were complaint. This implies that all governance prescriptions might not be universally applicable in different contexts, and that the optimal governance prescriptions may vary during times of financial distress. This finding further corroborates our earlier finding of a negative association between directors' remuneration and shareholder value.

This study also vindicates the importance of 'comply or explain' principle of corporate governance in the UK as results suggest that in certain conditions, non-compliance with specific provisions may in fact be in the interest of firms and their shareholders. These findings therefore signify the need for using different governance mechanisms in different economic conditions and contributes to the growing body of literature that questions the universality of corporate governance prescriptions in different countries (Judge, 2012; Van Essen et al., 2013).

The findings of this paper have implications for practitioners and policy makers. First, in terms of policy making, we argue that the 'comply or explain' principle is working well for some provisions, but for others, there

might be a need to move toward mandatory compliance with the UK CGC. As such, a broader perspective on good corporate governance mechanisms and its regulatory framework is required to improve corporate governance of financial institutions. We therefore argue that investors need to carefully scrutinize the level of compliance and quality of explanations reported by non-compliant firms. Moreover, the independence of NEDs seems more important for effective monitoring than just increasing the number of NEDs on corporate boards. Scrutinizing the independence of NEDs on boards is therefore regarded as a very important factor from the perspectives of investors and policy makers. Finally, our findings imply that policy makers and investors need to carefully consider the type of incentives and the number of internal controls within firms because the number of internal controls and the type of incentives have important implications for shareholder value during extraordinary times.

Considering the time period and coverage of the financial sector, we believe that this study makes a valuable contribution to the existing literature. However, a number of limitations still needs to be mentioned. First, this study relies on the use of corporate governance index which is constructed giving equal weighting to all of the provisions. However, as indicated by the findings of this study, some provisions of the governance code could be more important than the others. As there is no objective criterion available which could be used for weighting individual provisions, using an equal weighted index is probably the best available option as it does not involve any subjective judgement by the researchers. Furthermore, the index in this study was developed through the application of content analysis of the annual reports of the sample organizations. In order to cross check the level of compliance with the UK CGC, future research may employ surveys with board members and shareholders. Moreover, for understanding the level of importance that shareholders give to compliance with individual provisions of the UK CGC, interviews could also be conducted with shareholders, which would help in understanding the context and the research findings in this area. Lastly, in our study, we do not explore the trade-off between the benefits of compliance (higher shareholder value) and the cost of compliance. If there are no costs associated with compliance, all firms would likely be complaint. Further study is merited to shed light on the cost of compliance and how it affects shareholder value.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Sardar Ahmad  <https://orcid.org/0000-0002-9745-808X>

Saeed Akbar  <https://orcid.org/0000-0003-0413-9395>

Anwar Halari  <https://orcid.org/0000-0001-8535-6724>

ENDNOTES

- ¹ Other studies that document that a series of policy errors in the US and relaxation of regulatory conditions were to blame for the financial crisis (Heilpern, Haslam, & Andersson, 2009; Lewis, 2009).
- ² Studies have also investigated the level of compliance with mandatory disclosure requirements. For example, Day and Woodward (2004) analysed the extent of compliance of FTSE 100 companies with the UK Companies Act (1985) and found a lack of compliance with disclosure of information required under the Companies Act.
- ³ The Dodd-Frank Wall Street Reform and Consumer Protection Act and Basel III are examples of such initiatives.
- ⁴ The Financial Reporting Council is the UK's independent regulator responsible for promoting high quality corporate governance and reporting mechanisms.
- ⁵ Discussing the importance of financial institutions, a report published in 2019 by TheCityUK shows that the UK financial services sector is worth over £190 billion, it accounts for 10.9% of the total tax revenue and employs 2.3 million people in the UK. <https://www.thecityuk.com/assets/2019/Report-PDFs/b258573748/Key-facts-about-UK-based-financial-and-related-professional-services-2019.pdf>.
- ⁶ With remuneration committee chairmen, NEDs, company secretaries, company chairmen, pay consultants, and CEOs.
- ⁷ Financial firms are all those firms for which Industry Classification Benchmark (ICB) is 8,000. It includes banks, insurance, investment companies, life assurance, real estate and speciality and other finance.
- ⁸ Previously known as Hemscott Guru Database.
- ⁹ An additional advantage of this approach is that GMM estimates are robust to dynamic endogeneity, firm fixed effects, endogenous regressors, heteroscedasticity and serial correlation (Schultz et al., 2010).
- ¹⁰ Our non-compliance index is based on the 2003, 2006 and 2008 versions of the UK CGC.
- ¹¹ To conserve space these results are not reported but are available on request from the authors.
- ¹² We initially divided our Complaint firms based on an NCI score of more than 11 (indicating non-compliance with 50% or more provisions). However, we found that only 2% of the firms documented an NCI score of 11 or more. For the purposes of a meaningful comparison, we then decided to divide the sample on the basis of an NCI score of less than 7. This decision is vindicated by the fact that an NCI score of 7 is almost two times the sample mean NCI of 3.57, indicating a relatively higher level of non-compliance as compared with the other firms in the sample.
- ¹³ Known as *Combined Code* at the time.
- ¹⁴ Principle A 3.3 of the 2003 code states that except for smaller companies at least half of the board excluding the chairman should be independent non-executive directors. Therefore, 0.50 is

deemed to be a suitable ratio to distinguish between independent and non-independent boards.

- ¹⁵ To conserve space these results are not reported but are available on request from the authors.
- ¹⁶ These two provisions relate to compliance with the number of independent non-executive directors on remuneration, and audit committees.
- ¹⁷ To conserve space the PCA results are not reported in the paper but are available from the authors.

REFERENCES

- Abdallah, W., Goergen, M., & O'Sullivan, N. (2015). Endogeneity: How failure to correct for it can cause wrong inferences and some remedies. *British Journal of Management*, 26(4), 791–804. <https://doi.org/10.1111/1467-8551.12113>
- Adams, R. B. (2012). Governance and the financial crisis. *International Review of Finance*, 12(1), 7–38.
- Adams, R. B., Hermalin, B. E., & Weisbach, M. S. (2010). The Role of Boards of Directors in Corporate Governance: A conceptual framework and survey. *Journal of Economic Literature*, 48(1), 58–107. <https://doi.org/10.1257/jel.48.1.58>
- Ahmed, Z., & Hla, D. T. (2019). Stock return volatility and capital structure measures of nonfinancial firms in a dynamic panel model: Evidence from Pakistan. *International Journal of Finance and Economics*, 24(1), 604–628.
- Alexiou, C., Mohamed, A., & Nellis, J. (2019). The impact of institutional investors on firms' performance in the context of financialization. *International Journal of Finance and Economics* forthcoming, 1–20.
- Ammann, M., Oesch, D., & Schmid, M. M. (2011). Corporate governance and firm value: International evidence. *Journal of Empirical Finance*, 18(1), 36–55.
- Arcot, S., Bruno, V., & Faure-Grimaud, A. (2010). Corporate governance in the UK: Is the comply or explain approach working? *International Review of Law and Economics*, 30(2), 193–201.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277–297.
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68(1), 29–51.
- Baum, C. F., Chakraborty, A., & Liu, B. (2010). The impact of macroeconomic uncertainty on firms' changes in financial leverage. *International Journal of Finance and Economics*, 15(1), 22–30.
- Bayless, M. (2009). The myth of executive compensation: Do shareholders get what they pay for? *Applied Financial Economics*, 19(10), 795–808.
- Bebchuk, L., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance? *Review of Financial Studies*, 22(2), 783–827.
- Bebchuk, L. A., & Fried, J. M. (2003). Executive compensation as an agency problem. *Journal of Economic Perspectives*, 17(3), 71–92.
- Beekes, W., & Brown, P. (2006). Do better-governed Australian firms make more informative disclosures? *Journal of Business Finance & Accounting*, 33(3/4), 422–450. <https://doi.org/10.1111/j.1468-5957.2006.00614.x>

- Beltratti, A., & Stulz, R. M. (2012). The credit crisis around the globe: Why did some banks perform better? *Journal of Financial Economics*, 105(1), 1–17.
- Bender, R. (2004). Why do companies use performance related pay for their executive directors? *Corporate Governance: An International Review*, 12(4), 521–533.
- Benito, A., & Conyon, M. (1999). The governance of directors' pay: Evidence from UK companies. *Journal of Management and Governance*, 3(2), 117–136.
- Benston, G. J. (1985). The self-serving management hypothesis: Some evidence. *Journal of Accounting and Economics*, 7(1–3), 67–84.
- Bikiris, F. V., & Doukakis, L. C. (2011). Corporate governance and accruals earnings management. *Managerial and Decision Economics*, 32(7), 439–456.
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115–143.
- Carter, M. E., Lei, L., Marcus, J. A., & Tehranian, H. (2016). Excess pay and deficient performance. *Review of Financial Economics*, 30(1), 1–10. <https://doi.org/10.1016/j.rfe.2015.08.003>
- Chen, G., Firth, M., Gao, D. N., & Rui, O. M. (2006). Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance*, 12(3), 424–448. <https://doi.org/10.1016/j.jcorpfin.2005.09.002>
- Chen, J., Zhang, H., Xiao, X., & Li, W. (2011). Financial crisis and executive remuneration in banking industry - an analysis of five British banks. *Applied Financial Economics*, 21(23), 1779–1791.
- Cheng, I. H., Hong, H., & Scheinkman, J. A. (2015). Yesterday's heroes: Compensation and risk at financial firms. *The Journal of Finance*, 70(2), 839–879.
- Choi, S., & Hasan, I. (2005). Ownership, governance, and bank performance: Korean experience. *Financial Markets, Institutions & Instruments*, 14(4), 215–242. <https://doi.org/10.1111/j.0963-8008.2005.00104.x>
- Conyon, M., Judge, W. Q., & Useem, M. (2011). Corporate governance and the 2008–09 financial crisis. *Corporate Governance: An International Review*, 19(5), 399–404.
- Coughlan, A. T., & Schmidt, R. M. (1985). Executive compensation, management turnover, and firm performance: An empirical investigation. *Journal of Accounting and Economics*, 7(1–3), 43–66.
- Dahya, J., & McConnell, J. (2007). Board composition, corporate performance, and the cadbury committee recommendation. *Journal of Financial and Quantitative Analysis*, 42(3), 535–564.
- Darrat, A. F., Gray, S., Park, J. C., & Wu, Y. (2016). Corporate governance and bankruptcy risk. *Journal of Accounting, Auditing & Finance*, 31(2), 163–202. <https://doi.org/10.1177/0148558X14560898>
- Day, R., & Woodward, T. (2004). Disclosure of information about employees in the Directors' report of UK published financial statements: substantive or symbolic? *Accounting Forum*, 28(1), 43–59. <https://dx.doi.org/10.1016/j.accfor.2004.04.003>
- Dedman, E. (2016). CEO succession in the UK: An analysis of the effect of censuring the CEO-to-chair move in the combined code on corporate governance 2003. *The British Accounting Review*, 48(3), 359–378.
- Denis, D. J., Hanouna, P., & Sarin, A. (2006). Is there a dark side to incentive compensation? *Journal of Corporate Finance*, 12(3), 467–488.
- Dong, Y., Girardone, C., & Kuo, J.-M. (2017). Governance, efficiency and risk taking in Chinese banking. *The British Accounting Review*, 49(2), 211–229. <http://doi.org/10.1016/j.bar.2016.08.001>
- Dowell, G. W., Shackell, M. B., & Stuart, N. V. (2011). Boards, CEOs, and surviving a financial crisis: Evidence from the internet shakeout. *Strategic Management Journal*, 32(10), 1025–1045.
- Elamer, A. A., Ntim, C. G., Abdou, H. A., Zalata, A. M., & Elmagrhi, M. (2019). The impact of multi-layer governance on bank risk disclosure in emerging markets: The case of Middle East and North Africa. *Accounting Forum*, 43(2), 246–281. <https://doi.org/10.1080/01559982.2019.1576577>
- Erkens, D., Hung, M., & Matos, P. (2012). Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide. *Journal of Corporate Finance*, 18(2), 389–411.
- Fahlenbrach, R., & Stulz, R. M. (2011). Bank CEO incentives and the credit crisis. *Journal of Financial Economics*, 99(1), 11–26.
- Farag, H., Mallin, C., & Ow-Yong, K. (2014). Governance, ownership structure, and performance of entrepreneurial IPOs in AIM companies. *Corporate Governance: An International Review*, 22(2), 100–115.
- Federo, R., & Saz-Carranza, A. (2020). A typology of board design for highly effective monitoring in intergovernmental organizations under the United Nations system. *Regulation & Governance*, 14(2), 344–361. <https://doi.org/10.1111/rego.12216>
- Field, A. P. (2009). *Discovering statistics using SPSS*. London, England: SAGE publications Ltd.
- Florackis, C. (2005). Internal corporate governance mechanisms and corporate performance: Evidence for UK firms. *Applied Financial Economics Letters*, 1(4), 211–216.
- Florackis, C., & Ozkan, A. (2008). Agency costs and corporate governance mechanisms: Evidence for UK firms. *International Journal of Managerial Finance*, 4(1), 37–59.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics*, 118(1), 107–155.
- Gonzalez, A., & André, P. (2014). Board effectiveness and short termism. *Journal of Business Finance & Accounting*, 41(1/2), 185–209. <https://doi.org/10.1111/jbfa.12045>
- Gotti, G., Han, S., Higgs, J. L., & Kang, T. (2012). Managerial stock ownership, analyst coverage, and audit fee. *Journal of Accounting, Auditing & Finance*, 27(3), 412–437. <https://doi.org/10.1177/0148558X11409158>
- Gregoriou, G. N. (2009). *The banking crisis handbook*. London, England: Taylor & Francis Group.
- Gupta, P. P., Sami, H., & Zhou, H. (2018). Do companies with effective internal controls over Financial reporting benefit from Sarbanes–Oxley sections 302 and 404. *Journal of Accounting, Auditing & Finance*, 33(2), 200–227. <https://doi.org/10.1177/0148558X16663091>
- Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. *Econometrica: Journal of the Econometric Society*, 50(4), 1029–1054.
- Hawas, A., & Tse, C.-B. (2016). How corporate governance affects investment decisions of major shareholders in UK listed

- companies has the recent credit crunch changed the game? *Sss*, 31(1), 100–133.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1–3), 405–440.
- Heilpern, E., Haslam, C., & Andersson, T. (2009). When it comes to the crunch: What are the drivers of the US banking crisis? *Accounting Forum*, 33(2), 99–113. <https://doi.org/10.1016/j.accfor.2009.03.001>
- Hooghiemstra, R., & van Ees, H. (2011). Uniformity as response to soft law: Evidence from compliance and non-compliance with the Dutch corporate governance code. *Regulation & Governance*, 5(4), 480–498. <https://doi.org/10.1111/j.1748-5991.2011.01118.x>
- Hopt, K. J. (2011). Comparative corporate governance: The state of the art and international regulation. *American Journal of Comparative Law*, 59(1), 1–73.
- Janakiraman, S., Radhakrishnan, S., & Tsang, A. (2010). Institutional investors, managerial ownership, and executive compensation. *Journal of Accounting, Auditing & Finance*, 25(4), 673–707.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76(2), 323–339.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Judge, W. (2012). The importance of considering context when developing a global theory of corporate governance. *Corporate Governance: An International Review*, 20(2), 123–124.
- Kirkpatrick, G. (2009). The corporate governance lessons from the financial crisis. *Oecd Journal: Financial Market Trends*, 96(1), 1–30.
- Koirala, S., Marshall, A., Neupane, S., & Thapa, C. (2020). Corporate governance reform and risk-taking: Evidence from a quasi-natural experiment in an emerging market. *Journal of Corporate Finance*, 61, 101396. <https://doi.org/10.1016/j.jcorpfin.2018.08.007>
- Levine, R. (2004). The Corporate Governance of Banks: A Concise Discussion of Concepts and Evidence Policy Research Working Papers.
- Lewis, M. K. (2009). The origins of the sub-prime crisis: Inappropriate policies, regulations, or both? *Accounting Forum*, 33(2), 14–126.
- Lipton, M., & Lorsch, J. (1992). A modest proposal for improved corporate governance. *The Business Lawyer*, 48(1), 59–77.
- Liu, Y., Padgett, C., & Varotto, S. (2017). Corporate governance, bank mergers and executive compensation. *International Journal of Finance and Economics*, 22(1), 12–29.
- Mangena, M., & Taurigana, V. (2007). Corporate compliance with non-mandatory statements of best practice: The case of the ASB Statement on interim reports. *The European Accounting Review*, 16(2), 399–427. <https://doi.org/10.1080/09638180701391014>
- McKnight, P. J., & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis. *The Quarterly Review of Economics and Finance*, 49(2), 139–158.
- Morck, R., Shleifer, A., & Vishny, R. W. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, 20(1), 293–315.
- Murphy, K. J. (1985). Corporate performance and managerial remuneration: An empirical analysis. *Journal of Accounting and Economics*, 7(1–3), 11–42.
- Ozkan, N. (2011). CEO compensation and firm performance: An empirical investigation of UK panel data. *European Financial Management*, 17(2), 260–285.
- Pathan, S. (2009). Strong boards, CEO power and bank risk-taking. *Journal of Banking & Finance*, 33(7), 1340–1350.
- Sargan, J. D. (1958). The estimation of economic relationships using instrumental variables. *Econometrica: Journal of the Econometric Society*, 26(3), 393–415.
- Sarhan, A. A., Ntim, C. G., & Al-Najjar, B. (2019). Board diversity, corporate governance, corporate performance, and executive pay. *International Journal of Finance and Economics*, 24(2), 761–786. <https://doi.org/10.1002/ijfe.1690>
- Schultz, E. L., Tan, D. T., & Walsh, K. D. (2010). Endogeneity and the corporate governance-performance relation. *Australian Journal of Management*, 35(2), 145–163.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance*, 52(2), 737–783.
- Shrives, P. J., & Brennan, N. M. (2015). A typology for exploring the quality of explanations for non-compliance with UK corporate governance regulations. *The British Accounting Review*, 47(1), 85–99. <http://doi.org/10.1016/j.bar.2014.08.002>
- Staikouras, P. K., Staikouras, C. K., & Agoraki, M.-E. K. (2007). The effect of board size and composition on European bank performance. *European Journal of Law and Economics*, 23(1), 1–27.
- Ullah, S., Ahmad, S., Akbar, S., Kodwani, D., & Frecknall-Hughes, J. (2020). Governance disclosure quality and market valuation of firms in UK and Germany. *International Journal of Finance and Economics* Forthcoming, 1–25.
- Vallascas, F., Mollah, S., & Keasey, K. (2017). Does the impact of board independence on large bank risks change after the global financial crisis? *Journal of Corporate Finance*, 44, 149–166.
- Van Essen, M., Engelen, P. J., & Carney, M. (2013). Does “good” corporate governance help in a crisis? The impact of country- and firm-level governance mechanisms in the European financial crisis. *Corporate Governance: An International Review*, 21(3), 201–224.
- Verriest, A., Gaeremynck, A., & Thornton, D. B. (2013). The impact of corporate governance on IFRS adoption choices. *The European Accounting Review*, 22(1), 39–77. <https://doi.org/10.1080/09638180.2011.644699>
- Walker, D. (2009). A review of corporate governance in UK banks and other financial industry entities. Retrieved from http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/d/walker_review_261109.pdf
- Weir, C., Laing, D., & McKnight, P. J. (2002). Internal and external governance mechanisms: Their impact on the performance of large UK public companies. *Journal of Business Finance & Accounting*, 29(5), 579–611.
- Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, 105(3), 581–606.
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*, Cambridge, MA; London, England: The MIT Press.
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40(2), 185–211.
- Zakaria, I. (2012). Performance measures, benchmarks and targets in executive remuneration contracts of UK firms. *The British*

Accounting Review, 44(3), 189–203. <http://doi.org/10.1016/j.bar.2012.07.005>

Zalata, A., & Roberts, C. (2016). Internal corporate governance and classification shifting practices: An analysis of U.K. corporate behavior. *Journal of Accounting, Auditing & Finance*, 31(1), 51–78. <https://doi.org/10.1177/0148558x15571736>

How to cite this article: Ahmad S, Akbar S, Kodwani D, Halari A, Shah SZ. Compliance or non-compliance during financial crisis: Does it matter? *Int J Fin Econ*. 2021;1–19. <https://doi.org/10.1002/ijfe.2538>

APPENDIX

TABLE A1 Provisions from the UK Corporate Governance Code which are included in developing the Non-Compliance Index (NCI)

P1	Principle A.2 of the code states that there should be a clear division of responsibilities at the head of the company between the running of the board and the executive responsibility for the running of the company's business. No one individual should have unfettered powers of decision.
P2	Principle A.2.2 of the code states that the chairman should, on appointment, meet the independence criteria set out in section A.3.1 of the UK corporate governance code.
P3	Principle A.3.3 states that the board should appoint one of the independent non-executive directors to be the senior independent director.
P4	Principle A.3.2 states that except for smaller companies, ^a at least half of the board excluding the chairman should be independent non-executive directors (INEDs).
P5	Principle A.3.2 states that the majority of non-executive directors (NEDs) should be independent.
P6	Principles A.4.1, C.3.1 and B.2.1 state that the board should establish nomination, audit and remuneration committees.
P7	Principle A.4.6 states that a separate section of the annual report should describe the work of the nomination committee, including the process it has used in relation to board appointments.
P8	Principles A.4.1, C.3.1 and B.2 state that the audit, nomination and remuneration committees should be headed by independent non-executive directors (INEDS).
P9	Principle A.4.5 states that executive directors should not take more than one non-executive directorship in a FTSE 100 company nor the chairmanship of such a company.
P10	Principle A.6.1 states that the board should report in the annual report how performance evaluation of the board, its committees and its individual directors has been conducted.
P11	Principle A.6.1 states that independent non-executive directors led by senior independent director should be responsible for performance evaluation of the chairman, taking into account the views of executive directors.
P12	Principle A.7.1 states that all directors should be subject to election at their first AGM, and re-election every 3 years.
P13	Principle B.1.1 states that performance-related elements of remuneration should form a significant proportion of the total remuneration package of executive directors and should be designed to align their interests with those of shareholders and to give these directors keen incentives to perform at the highest levels.
P14	Principle B.1.2 states that remuneration for NEDs should not include share options.
P15	Principle B.2.1 states that remuneration committee should be entirely composed of independent non-executive directors.
P16	Principle C.2 states that the board should maintain a sound system of internal controls to safeguard shareholders' investments and the company's assets.
P17	Principle C.2.1 states that the board should, at least annually, conduct a review of the effectiveness of the company's system of internal controls and should report to shareholders that they have done so.
P18	Principle C.3.1 states that at least three members of the audit committee should be independent non-executive directors.
P19	Principle C.3.1 states that the board should satisfy itself that at least one member of the audit committee has recent and relevant financial experience.
P20	Principle D.1.2 states that the board should report in the annual report the steps taken to ensure that the board, including the NEDs, has developed an understanding of the views of major shareholders of the company.
P21	Principle B.1.6 states that notice or contract periods should be set at 1 year or less.
P22	Principle C.3.2 states that the main role and responsibilities of the audit committee should be set out in written terms of reference.

^aA smaller company is one that is outside the FTSE 350 throughout the year immediately prior to the reporting year.